

This document gives pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a **Minor Municipal** permit. The discharge results from the operation of a 0.08 MGD wastewater treatment plant serving 170 homes. This permit action consists of updating the WQS and updating boilerplate. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260-00 et seq.

1. Facility Name and Mailing Address: Harbor View STP
10609 Greene Drive

SIC Code : 4952

Facility Location: Lorton, VA County: Fairfax

Facility Contact Name: Douglas Hartline Telephone Number: 703-339-7169
2. Permit No.: VA0029416 Expiration Date of previous permit: March 31, 2008
Other VPDES Permits associated with this facility: N/A
Other Permits associated with this facility: N/A
E2/E3/E4 Status: N/A
3. Owner Name: Colchester Public Service Corporation
Owner Contact/Title: Tony L. Sharp, Regional Manager Telephone Number: 410-286-5533
4. Application Complete Date: April 16, 2008
Permit Drafted By: Susan Oakes Date Drafted: April 22, 2008
Draft Permit Reviewed By: Alison Thompson Date Reviewed: May 1 & 5, 2008
Public Comment Period : Start Date: May 21, 2008 End Date: June 19, 2008
5. Receiving Waters Information: See **Attachment 1** for the Flow Frequency Determination
Receiving Stream Name : Massey Creek
Drainage Area at Outfall: Tidal River Mile: 1aMAE000.76
Stream Basin: Potomac Subbasin: Potomac
Section: 6 Stream Class: II
Special Standards: b Waterbody ID: VAN-A25E
7Q10 Low Flow: Tidal 7Q10 High Flow: Tidal
1Q10 Low Flow: Tidal 1Q10 High Flow: Tidal
Harmonic Mean Flow: Tidal 30Q5 Flow: Tidal
303(d) Listed: Yes 30Q10 Flow: Tidal
TMDL Approved: Yes Date TMDL Approved: 10/31/07
6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

<input checked="" type="checkbox"/> State Water Control Law	<input type="checkbox"/> EPA Guidelines
<input checked="" type="checkbox"/> Clean Water Act	<input checked="" type="checkbox"/> Water Quality Standards
<input checked="" type="checkbox"/> VPDES Permit Regulation	<input checked="" type="checkbox"/> Potomac Embayment Standards
<input type="checkbox"/> EPA NPDES Regulation	
7. Licensed Operator Requirements: Class III
8. Reliability Class: Class I

9. Permit Characterization:

<input checked="" type="checkbox"/> Private	<input type="checkbox"/> Effluent Limited	<input type="checkbox"/> Possible Interstate Effect
<input type="checkbox"/> Federal	<input checked="" type="checkbox"/> Water Quality Limited	<input type="checkbox"/> Compliance Schedule Required
<input type="checkbox"/> State	<input type="checkbox"/> Toxics Monitoring Program Required	<input type="checkbox"/> Interim Limits in Permit
<input type="checkbox"/> POTW	<input type="checkbox"/> Pretreatment Program Required	<input type="checkbox"/> Interim Limits in Other Document
<input checked="" type="checkbox"/> TMDL		

10. Wastewater Sources and Treatment Description:

The Harbor View Sewage Treatment Plant (STP) is privately owned and operated by Colchester Public Service Corporation, a subsidiary of Utilities, Inc. The Plant serves the Harbor View subdivision consisting of 170 homes, located in southeast Fairfax County. It was originally built in 1963 for 0.04 MGD and expanded to 0.08 MGD in 1972.

The Plant has a design capacity of 0.08 MGD and treats wastewater through a combination of a biological treatment using extended aeration activated sludge process, aided by chemical treatment, followed by pressure filtration, chlorination and dechlorination, and post aeration.

Raw sewage enters a bar screen at the headworks and then is split between two parallel rectangular aeration basins aerated with diffused air. One aeration basin is followed by a rectangular clarifier, while the other by a circular clarifier. Lime is added to the aeration basins to adjust pH and to aid in settling. Ferric chloride is added at the end of the aeration process for phosphorus removal and polymer is fed to the clarifiers to aid in settling.

Effluent from clarifiers is collected in an equalization basin and pumped to the mixed media filters. The filtered effluent flows to a chlorine contact tank, where sodium hypochlorite is added for disinfection. The chlorine contact tank is baffled and equipped with air diffusers for aeration when needed. The effluent is dechlorinated with sodium bisulfite before being discharged to Massey Creek at Outfall 001.

See **Attachment 2** for a facility schematic/diagram.

TABLE 1 – Outfall Description				
Outfall Number	Discharge Sources	Treatment	Design Flow	Outfall Latitude and Longitude
001	Domestic sewage	See Item 10 above.	0.08 MGD	38° 40' 08" N 77° 13' 16" W
See Attachment 3 for Fort Belvoir, DEQ #193B topographic map.				

11. Sludge Treatment and Disposal Methods:

An aerated sludge holding tank is used to hold the sludge. Approximately 7,500 gallons of sludge is hauled away every two weeks by a local contractor to Noman M. Cole Jr. Pollution Control Plant (VA0025364), of Fairfax County for further processing.

12. Discharges, Intakes, Monitoring Stations, Other Items in Vicinity of Discharge

TABLE 2	
NA	Withdrawal - Occoquan Dam. Occoquan Reservoir supplies water to Occoquan/Lorton Water treatment plant.
VA0083755	Discharge - Occoquan Water Treatment Plant. Note: This facility is no longer operational and the permit will not be reissued when it expires.
NA	Foot Bridge across Occoquan River.
VA0002585	Discharge – Lorton Water Treatment Plant.
NA	Rt. 123 Bridge, upper boundary of the VAN-25E Waterbody, WQ station.
NA	Occoquan Regional Park - Mills Branch joining the Occoquan River.
VAG110083	Discharge -Virginia Concrete, Woodbridge.
VA0023299	Discharge - Gunston Elementary School STP discharges into the South Branch of Massey Creek approximately 1.1 miles up from the Harbor View STP. 0.006 MGD.
VAG406088	Discharge - Verizon Virginia Inc. residential general permit, discharges into the South Branch of Massey Creek approximately 1.1 miles up from Harbor View STP.
VAG110085	Discharge - Cardinal Concrete Lorton facility discharges into an unnamed tributary of Giles Run approximately 1.3 miles up from the Harbor View discharge.
VAG406104	Discharge - Belmont Bay Association General Permit discharges into Belmont Bay just below Verizon Virginia Inc (VAG406088).
NA	Ambient Water Quality Monitoring Station (1AOCC002.47) - located at buoy #6 in Occoquan Bay (next to lighthouse).

13. Material Storage:

TABLE 3 - Material Storage		
Materials Description	Volume Stored	Spill/Stormwater Prevention Measures
Lime	2,500 lbs. (50/50 lb bags)	Stored in Lime Storage Room
Ferric Chloride	2 X 750 gallons	Storage Tanks
Polymer	100 lbs.	Stored in garbage can in blower room
Sodium Bisulfite	100 gallons	Feed Shed
Sodium Hypochlorite	100 gallons	Feed Shed

14. Site Inspection: Performed by Susan Oakes and Susan Mackert on April 2, 2008 (see **Attachment 4**).**15. Receiving Stream Water Quality and Water Quality Standards:**a) Ambient Water Quality Data

There is no ambient monitoring station for Massey Creek. The nearest downstream monitoring station is located along the Occoquan River, off Sandy Point near marker #6. Station 1aOCC002.47 is approximately 2.27 rivermiles downstream from the facility outfall.

For the 2006 Integrated Report (IR), Massey Creek is listed for PCBs in fish tissue and insufficient acreage of submerged aquatic vegetation (SAV), as noted by the aquatic plants (macrophytes) impairment. Massey Creek, which is tidal, has been nested into the broader tidal Potomac River PCB in fish tissue and SAV impairments (See Planning Statement in permit file).

Significant portions of the Chesapeake Bay and its tributaries are listed as impaired on Virginia's 303(d) list of impaired waters for not meeting the aquatic life use support goal, and the 2006 Virginia Water Quality Assessment 305(b)/303(d) Integrated Report indicates that much of the mainstem Bay does not fully support this use support goal under Virginia's Water Quality Assessment guidelines. Nutrient enrichment is cited as one of the primary causes of impairment.

In response, the Virginia General Assembly amended the State Water Control Law in 2005 to include the *Chesapeake Bay Watershed Nutrient Credit Exchange Program*. This statute set forth total nitrogen and total phosphorus discharge restrictions within the bay watershed. Concurrently, the State Water Control Board adopted new water quality criteria for the Chesapeake Bay and its tidal tributaries. These actions necessitate the evaluation and the inclusion of nitrogen and phosphorus limits on discharges within the bay watershed.

b) Receiving Stream Water Quality Criteria

Part IX of 9 VAC 25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream, Massey Creek, is located within Section 6 of the Potomac River Basin, and classified as a Class II water.

Class II tidal waters in the Chesapeake Bay and its tidal tributaries must meet dissolved oxygen concentrations as specified in 9 VAC 25-260-185 and maintain a pH of 6.0-9.0 standard units as specified in 9 VAC 25-260-50. In the Northern Virginia area, Class II waters must meet the Migratory Fish Spawning and Nursery Designated Use from February 1 through May 31. For the remainder of the year, these tidal waters must meet the Open Water use. The applicable dissolved oxygen concentrations are presented in **Attachment 5**.

Attachment 6 details other water quality criteria applicable to the receiving stream.

Ammonia:

Staff has re-evaluated the DMR effluent data for pH and finds no significant differences from the data used to establish ammonia criteria and subsequent effluent limits in the previous permit. Therefore, the previously established pH and temperature values will be carried forward as part of this reissuance process.

Metals Criteria:

The 7Q10 of the receiving stream is zero and no ambient data is available, the effluent data for hardness can be used to determine the metals criteria. Staff found no significant difference from the previous effluent hardness value therefore the value of 290 mg/l will be carried forward with this reissuance. The hardness-dependent metals criteria shown in **Attachment 6** are based on this value.

Bacteria Criteria: The Virginia Water Quality Standards (9 VAC 25-260-170 B.) states sewage discharges shall be disinfected to achieve the following criteria:

- 1) *E. coli* bacteria per 100 ml of water shall not exceed the following:

	Geometric Mean ¹	Single Sample Maximum
Freshwater <i>E. coli</i> (N/100 ml)	126	235

¹For two or more samples [taken during any calendar month].

c) Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9 VAC 25-260-360, 370 and 380) designates the river basins, sections, classes, and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, Massey Creek, is located within Section 6 of the Potomac River Basin. This section has been designated with special standard designations of b and y; however special standard y does not apply as Harbor View has not done the special study that is required in order to use the alternate calculations for the chronic ammonia criterion. Special Standard NEW-11 designation from the previous reissuance has been repealed.

Special Standard "b" (Potomac Embayment Standards (PES)) established effluent standards for all sewage plants discharging into Potomac River embayments and for expansions of existing plants discharging into non-tidal tributaries of these embayments. 9 VAC 25-415, Policy for the Potomac Embayments controls point source discharges of conventional pollutants into the Virginia embayment waters of the Potomac River, and their tributaries, from the fall line at Chain Bridge in Arlington County to the Route 301 bridge in King George County. The regulation sets effluent limits for BOD₅, total suspended solids, phosphorus, and ammonia, to protect the water quality of these high profile waterbodies.

d) Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched for records to determine if there are threatened or endangered species in the vicinity of the discharge. The following threatened or endangered species were identified within a 2 mile radius of the discharge: Loggerhead Shrike and Bald Eagle. The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and therefore, protect the threatened and endangered species found near the discharge.

The stream that the facility discharges to is within a reach identified as having an Anadromous Fish Use. It is staff's best professional judgment that the proposed limits are protective of this use (See the DGIF database printout located in the permit file).

16. Antidegradation (9 VAC 25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving stream has been classified as Tier 1. Permit limits proposed have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development :

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points is equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLA) are calculated. In this case since the critical flows 7Q10 and 1Q10 have been determined to be zero, the WLA's are equal to the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. Effluent limitations are based on the most limiting WLA, the required sampling frequency, and statistical characteristics of the effluent data.

a) Effluent Screening:

Effluent data obtained from DMRs and Attachment A monitoring have been reviewed and determined to be suitable for evaluation. DMR data showed Total Phosphorus exceedances noted in April 2005 and June 2007, an ammonia exceedance in May 2006, and a cBOD₅ exceedance in November 2007. Exceedances were attributed to mechanical problems. Attachment A data showed Dichlorobromomethane and Chloroform above the reporting limits, however, since there are no Aquatic Life Water Quality Standards and the parameters are well below the Human Health standards for these analytes, effluent limitations for Dichlorobromomethane and Chloroform will not be developed at this time.

b) Mixing Zones and Wasteload Allocations (WLAs):

Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f)(Q_s)] - [(C_s)(f)(Q_s)]}{Q_e}$$

Where:

WLA	=	Wasteload allocation
C _o	=	In-stream water quality criteria
Q _e	=	Design flow
Q _s	=	Critical receiving stream flow (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; harmonic mean for carcinogen-human health criteria; and 30Q5 for non-carcinogen human health criteria)
f	=	Decimal fraction of critical flow
C _s	=	Mean background concentration of parameter in the receiving stream.

The water segment receiving the discharge via Outfall 001 is considered to have a 7Q10 and 1Q10 of 0.0 MGD. As such, there is no mixing zone and the WLA is equal to the C_o.

c) Effluent Limitations Toxic Pollutants, Outfall 001

9 VAC 25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9 VAC 25-31-230.D. requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

1) Ammonia as N:

In accordance with the PESs (9 VAC 25-415-40), no change to ammonia effluent limitations is proposed. For the period from April to October, the monthly average limit for ammonia nitrogen is 1.0 mg/L. A multiplier of 1.5 is applied to the monthly average to obtain weekly average in accordance with DEQ and EPA practice in establishing effluent limitations.

For tidal estuaries, chronic wasteload allocations should be based on site specific data of waste dispersion or dilution. Where dispersion/dilution data is not available, a dilution ration of 50:1 (50 times the water quality standard) for chronic toxicity is usually recommended as a default. However, at the point where the Harbor View STP discharges, Massey Creek is at the headwaters of an isolated cove with no upstream freshwater inflow. Furthermore, staff believes that the dilution effects from tidal influence are minimal based upon the cove's close location to the fall line, its isolated location, and its shallowness. Therefore, wasteload allocations will be calculated at the discharge point without the effects of dilution. This does not preclude the permitteefrom conducting further dilution/dispersion on the cove and presenting them to DEQ for further evaluation.

While the previously established pH and temperature values were used to re-calculate ammonia criteria, the ammonia criteria for this reissuance differ from those criteria established with the previous reissuance due to the 2003 change in Water Quality Standards. Although the newly calculated ammonia criteria allows for a relaxation of the ammonia effluent limitations, the facility has been meeting the existing ammonia limits, therefore, staff proposes to carry forward the current limits. For the rest of the year, from November to March, the monthly average for ammonia nitrogen will remain 2.0 mg/L and the weekly average limit will remain as 2.6 mg/L. Derivation of the ammonia limit is included in **Attachment 7**. Also included in Attachment 7 is the 1994 rationale for not using default tidal dilution for this discharge.

2) Total Residual Chlorine:

Chlorine is used for disinfection and is potentially in the discharge. Staff calculated WLAs for TRC using current critical flows. In accordance with current DEQ guidance, staff used a default data point of 0.2 mg/L and the calculated WLAs to derive limits. A monthly average of 0.010 mg/L and a weekly average limit of 0.010 mg/L are proposed for this discharge (see **Attachment 7**).

3) Metals/Organics:

No limits are needed.

d) Effluent Limitations and Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants

No changes to dissolved oxygen (D.O.), carbonaceous biochemical oxygen demand-5 day (cBOD₅), total suspended solids (TSS), total phosphorus (TP), and pH limitations are proposed.

Dissolved Oxygen, pH, *E. coli* and Chlorine are in accordance with the Water Quality Standards.

TSS, TP, Ammonia and cBOD₅ are in accordance with the Potomac Embayment Standards.

It is staff's best professional judgment that a limit for *E. coli* continue in the permit to verify that the chlorine is providing adequate disinfection of the effluent and protection of the water quality standards.

e) Effluent Monitoring, Outfall 001 – Nutrients

As discussed in Section 15, significant portions of the Chesapeake Bay and its tributaries are listed as impaired with nutrient enrichment cited as one of the primary causes. Virginia has committed to protecting and restoring the Bay and its tributaries.

The State Water Control Board adopted new Water Quality Criteria for the Chesapeake Bay in March 2005. In addition to the Water Quality Standards, there are three new regulations that necessitate nutrient limitations:

- 9 VAC 25-40 - *Regulation for Nutrient Enriched Waters and Dischargers within the Chesapeake Bay Watershed* requires discharges with design flows of ≥ 0.04 mgd to treat for TN and TP to either BNR levels (TN = 8 mg/l; TP = 1.0 mg/l) or SOA levels (TN = 3.0 mg/l and TP = 0.3 mg/l).
- 9 VAC 25-720 – *Water Quality Management Plan Regulation* sets forth TN and TP maximum wasteload allocations for facilities with design flows of ≥ 0.5 mgd limiting the mass loading from these discharges.
- 9 VAC 25-820 *General Virginia Pollutant Discharge Elimination System (VPDES) Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia* was approved by the State Water Control Board on September 6, 2006 and became effective January 1, 2007. This regulation specifies and controls the nitrogen and phosphorus loadings from facilities and specifies facilities that must register under the general permit. Nutrient loadings for those facilities registered under the general permit as well as compliance schedules and other permit requirements, shall be authorized, monitored, limited, and otherwise regulated under the general permit and not this individual permit.

Although this facility is not expanding and therefore not required to register under the general permit, it is staff's best professional judgment that monitoring only for Nitrates + Nitrites, TKN, and TN continue at a reduced frequency of once every month to protect the Water Quality Standards of the Chesapeake Bay until such time as the facility expands.

f) Effluent Limitations and Monitoring Summary.

The effluent limitations are presented in the following table. Limits were established for Flow, cBOD₅, Total Suspended Solids, Ammonia, pH, Dissolved Oxygen, Total Residual Chlorine, *E. coli*, Total Phosphorus, Total Kjeldahl Nitrogen (TKN), Total Nitrogen, Nitrate, and Nitrite.

The limit for Total Suspended Solids is based on Water Quality Standards and the PESs.

The mass loading (kg/d) for monthly and weekly averages were calculated by multiplying the concentration values (mg/l), with the flow values (in MGD) and a conversion factor of 3.785.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

18. Antibacksliding:

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

19. Effluent Limitations/Monitoring Requirements:

Design flow is 0.08 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS						MONITORING REQUIREMENTS	
		Monthly Average		Weekly Average		Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL		NA		NA	NL	Continuous	TIRE
pH	3	NA		NA		6.0 S.U.	9.0 S.U.	1/D	Grab
CBOD ₅	3, 5	5 mg/L	1.5 kg/d	8 mg/L	2.3 kg/d	NA	NA	3D/W	8H-C
Total Suspended Solids (TSS)	3, 5	6.0 mg/L	1.8 kg/d	9.0 mg/L	2.7 kg/d	NA	NA	3D/W	8H-C
DO	3, 5	NA		NA		6.0 mg/L	NA	1/D	Grab
Total Kjeldahl Nitrogen (TKN)	2, 3	NL		NL		NA	NA	1/M	8H-C
Ammonia, as N (April-Oct)	3, 5	1.0 mg/L	0.30 kg/d	1.5 mg/L	0.45 kg/d	NA	NA	3D/W	8H-C
Ammonia, as N (Nov-March)	3	2.0 mg/L	0.61 kg/d	2.6 mg/L	0.79 kg/d	NA	NA	3D/W	8H-C
<i>E. coli</i> (Geometric Mean)	3	126 n/100mls		NA		NA	NA	1/W	Grab
Total Residual Chlorine (after contact tank)	2, 3, 4	NA		NA		1.0 mg/L	NA	3/D at 4-hr Intervals	Grab
Total Residual Chlorine (after dechlorination)	2, 3, 4	0.010 mg/L		0.010 mg/L		NA	NA	1/D	Grab
NO ₂ + NO ₃ as Nitrogen	2, 3	NL		NL		NA	NA	1/M	8H-C
Total Nitrogen ^a .	2, 3	NL		NL		NA	NA	1/M	Calculated
Total Phosphorus	3, 5	0.18 mg/L	0.05 kg/d	0.27 mg/L	0.08 kg/d	NA	NA	3D/W	8H-C

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Professional Judgement
3. Water Quality Standards
4. DEQ Disinfection Guidance
5. Potomac Embayment Standards

MGD = Million gallons per day.*NA* = Not applicable.*NL* = No limit; monitor and report.*S.U.* = Standard units.*TIRE* = Totalizing, indicating and recording equipment.*1/D* = Once every day.*1/M* = Once every month.*1/W* = Once every week.*3D/W* = Three days a week.*3/D* = Three every day.

8H-C = A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the Monitored 8-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of eight (8) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum eight (8) grab samples obtained at hourly or smaller intervals may be collected. Where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by $\geq 10\%$ or more during the monitored discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

a. Total Nitrogen = Sum of TKN plus Nitrate+Nitrite

20. Other Permit Requirements :

- a) Part I.B. of the permit contains additional chlorine monitoring requirements, quantification levels and compliance reporting instructions.

A minimum chlorine residual must be maintained at the exit of the chlorine contact tank to assure adequate disinfection. No more than 10% of the monthly test results for TRC at the exit of the chlorine contact tank shall be <1.0 mg/L with any TRC <0.6 mg/L considered a system failure. Monitoring at numerous STPs has concluded that a TRC residual of 1.0 mg/L is an adequate indicator of compliance with the *E. coli* criteria. *E. coli* limits are defined in this section as well as monitoring requirements to take effect should an alternate means of disinfection be used.

9 VAC 25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9 VAC 25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

21. Other Special Conditions :

- a) 95% Capacity Reopener. The VPDES Permit Regulation at 9 VAC 25-31-200.B.2. requires all POTWs and PVOTWs develop and submit a plan of action to DEQ when the monthly average influent flow to their sewage treatment plant reaches 95% or more of the design capacity authorized in the permit for each month of any three consecutive month period. The facility is a PVOTW.
- b) Indirect Dischargers. Required by VPDES Permit Regulation, 9 VAC 25-31-280 B.9 for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.
- c) O&M Manual Requirement. Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790; VPDES Permit Regulation, 9 VAC 25-31-190.E. Per the site visit and a review of the O&M manual on file dated January 1991, the permittee shall review at a minimum, the facility schematic/plant processes, laboratory requirements, maintenance service/repair/spare parts, records, safety/emergency phone numbers/contacts/organizational names/addresses, and documents included in the manual. By September 20, 2008, the permittee shall submit for review and approval an updated O&M Manual to the Department of Environmental Quality, Northern Regional Office (DEQ-NRO). Future changes to the facility must be addressed by the submittal of a revised O&M Manual within 90 days of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.
- d) CTC, CTO Requirement. The Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790 requires that all treatment works treating wastewater obtain a Certificate to Construct prior to commencing construction and to obtain a Certificate to Operate prior to commencing operation of the treatment works.
- e) Licensed Operator Requirement. The Code of Virginia at §54.1-2300 et seq. and the VPDES Permit Regulation at 9 VAC 25-31-200 D, and Rules and Regulations for Waterworks and Wastewater Works Operators (18 VAC 160-20-10 et seq.) requires licensure of operators. This facility requires a Class III operator.
- f) Reliability Class. The Sewage Collection and Treatment Regulation at 9 VAC 25-790 requires sewerage works achieve a certain level of reliability in order to protect water quality and public health consequences in the event of component or system failure. The facility is required to meet a reliability Class of I.
- g) Water Quality Criteria Reopener. The VPDES Permit Regulation at 9 VAC 25-31-220 D. requires establishment of effluent limitations to ensure attainment/maintenance of receiving stream water quality criteria. Should effluent monitoring indicate the need for any water quality-based limitations, this permit may be modified or alternatively revoked and reissued to incorporate appropriate limitations.

- h) Sludge Reopener. The VPDES Permit Regulation at 9 VAC 25-31-200.C.4. requires all permits issued to treatment works treating domestic sewage (including sludge-only facilities) include a reopener clause allowing incorporation of any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the CWA. The facility includes a sewage treatment works.
- i) Sludge Use and Disposal. The VPDES Permit Regulation at 9 VAC 25-31-100.P., 220.B.2., and 420-720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. The facility includes a treatment works treating domestic sewage.
- j) Nutrient Reopener. 9 VAC 25-40-70 A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade. 9 VAC 25-31-390 A authorizes DEQ to modify VPDES permits to promulgate amended water quality standards.

Permit Section Part II. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

22. Changes to the Permit from the Previously Issued Permit:

- a) Special Conditions:
Water Quality Criteria Reopener Special Condition added.
TMDL Reopener Special Condition added.
- b) Monitoring and Effluent Limitations:
Orthophosphorus monitoring removed.
TN, TKN, Nitrate + Nitrite monitoring reduced from two days per month to once per month.

23. Variances/Alternate Limits or Conditions:

None.

24. Public Notice Information:

First Public Notice Date: May 20, 2008

Second Public Notice Date: May 27, 2008

Public Notice Information is required by 9 VAC 25-31-280 B. All pertinent information is on file and may be inspected, and copied by contacting the: Northern Virginia DEQ Regional Office, 13901 Crown Court, Woodbridge, VA 22193, Telephone No. (703) 583-3863, saoakes@deq.virginia.gov. See **Attachment 8** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

25. 303 (d) Listed Stream Segments and Total Max. Daily Loads (TMDL):

The receiving stream, Massey Creek is listed on the current 303(d) list for PCBs in fish tissue and insufficient acreage of submerged aquatic vegetation (SAV). The PCB in fish tissue TMDL for the tidal Potomac River has been completed and was approved by EPA on 10/31/2007. The SAV impairment is expected to be removed from the tidal fresh portion of the Potomac River (POTTF) during the 2008 IR submittal process. Significant contributors of PCBs were given a waste load allocation in the TMDL. However, the facility was not categorized as a significant discharger, thus, was not included in the TMDL.

TMDL Reopener: This special condition is to allow the permit to be reopened if necessary to bring it in compliance with any applicable TMDL approved for the receiving stream.

26. Additional Comments:

Previous Board Action(s): None.

Staff Comments: None.

Public Comment: No comments were received during the public notice.

EPA Checklist: The checklist can be found in **Attachment 9**.

Harbor View STP
Fact Sheet Attachments – Table of Contents
VA0029416

Attachment 1	Flow Frequency Determination
Attachment 2	Facility schematic/flow diagram
Attachment 3	Fort Belvoir, DEQ #193B topographic map.
Attachment 4	Site Inspection
Attachment 5	Dissolved Oxygen Concentrations
Attachment 6	Water Quality Criteria
Attachment 7	Statistical analysis for Ammonia and Total Residual Chlorine effluent limitations
Attachment 8	Public Notice
Attachment 9	EPA Checklist

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
Water Quality Assessments and Planning
629 E. Main Street P.O. Box 10009 Richmond, Virginia 23240

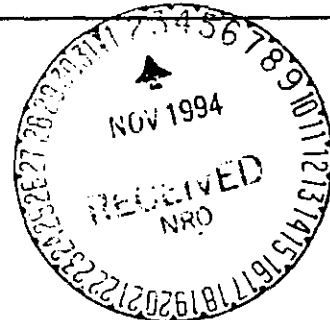
SUBJECT: Flow Frequency Determination
Harborview STP - #VA0029416

TO: Lyle Anne Collier, NRO

FROM: Paul Herman, OWRM-WQAP *Paul*

DATE: October 31, 1994

COPIES: Ron Gregory, Charles Martin, Dale Phillips, Curt Wells,
File

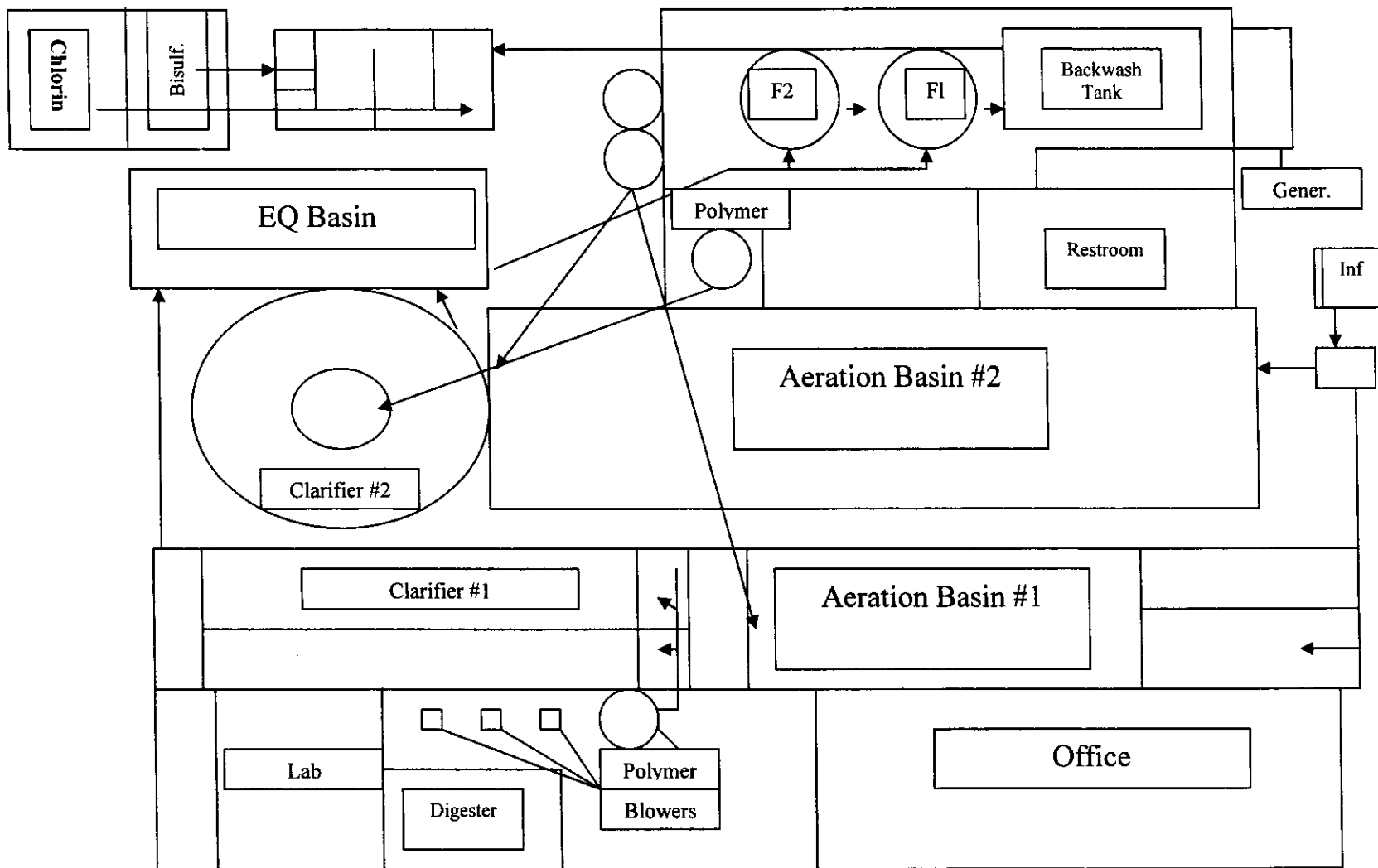


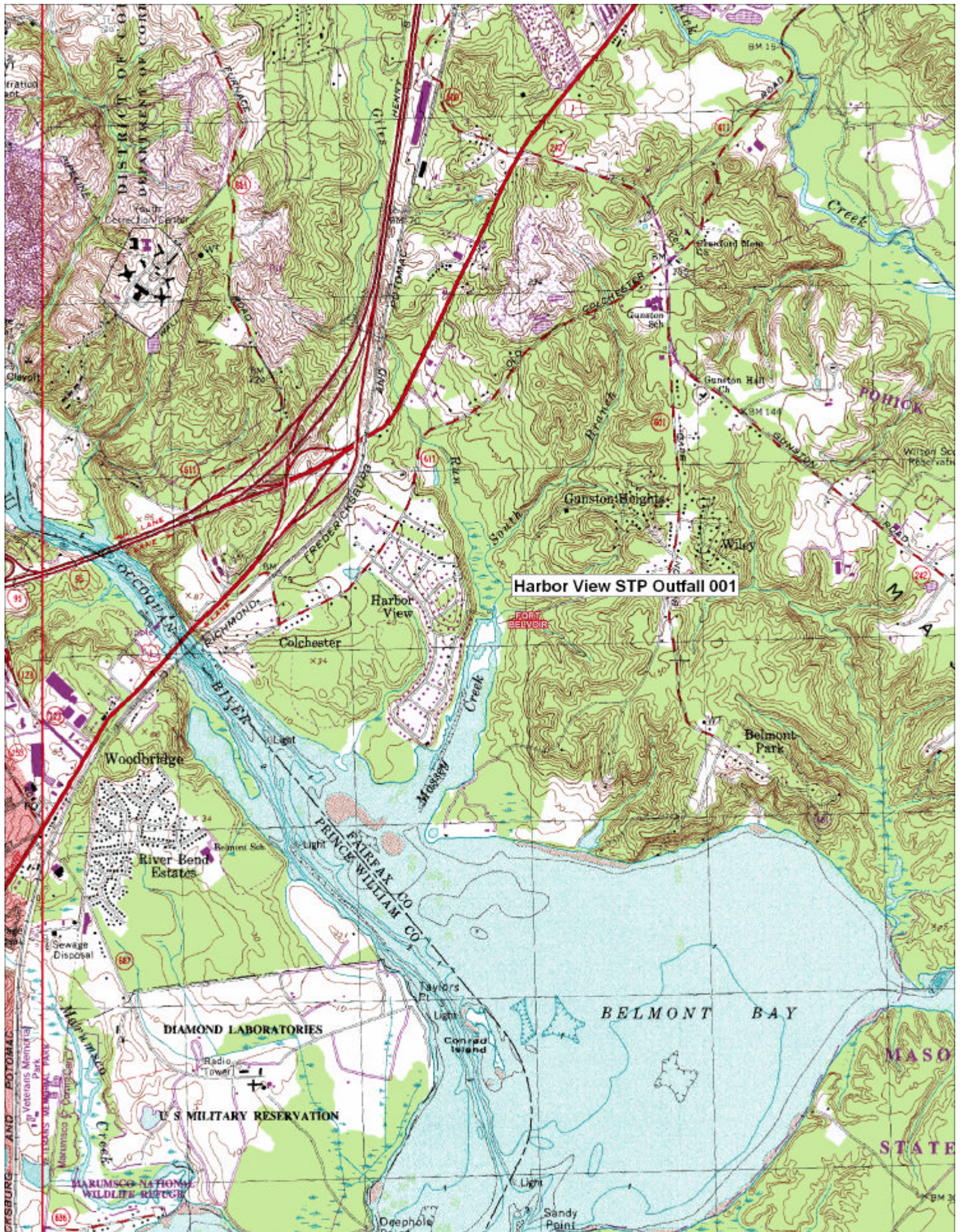
This memo replaces my memo to you dated December 10, 1993.

The Harborview STP discharges to the Massey Creek near Woodbridge, VA. Flow frequencies are required at this site for use by the permit writer in developing effluent limitations for the VPDES permit.

The values at the discharge point were determined by inspection of the USGS Fort Belvoir Quadrangle topographical map and by review of data collected by the permit writer during a site visit which depicted the receiving stream as tidal at the discharge point with no evidence of freshwater inflow upstream of the outfall. The flow frequencies for tidal streams or tidal embayments are 0.0 cfs for the 1Q10, 7Q10, 30Q5, high flow 1Q10, high flow 7Q10 and the harmonic mean. The drainage area above the discharge site is 0.0 mi².

If you have any questions concerning this analysis, please let me know.





April 3, 2008

MEMORANDUM

TO: Harbor View STP Permit File (VA0029416)

FROM: Susan A. Oakes

SUBJECT: Reissuance site inspection report

The purpose of this memo is to document the conditions of the Harbor View STP in Lorton, VA and the receiving stream (Massey Creek), observed during the site inspection conducted on April 2, 2008. Attendees for the inspection were Susan Oakes and Susan Mackert for DEQ and Douglas Hartline for Colchester Public Service Corporation.

The Harbor View STP serves a subdivision with 170 homes. The raw sewage from the community on the North side of the STP is gravity fed and enters the plant via a bar screen. The raw sewage from the community on the South side of the STP is gravity fed to a pump station where it is pumped to the plant and enters via the bar screen. After entering through the bar screen the sewage then passes through a splitter box and flows to a parallel system consisting of 2 aeration basins, 2 clarifiers, an equalization basin, 2 mixed media filters, chlorine contact tank, passing through a flow meter followed by dechlorination and out to Massey Creek. The parallel system can be operated simultaneously or separately. Lime is added to the aeration basins to adjust the pH and to aid in settling. In addition, ferric chloride is added at the end of the aeration process for phosphorus removal. Polymer is added to the clarifier to aid in settling. The plant has two return activated sludge lines which return sludge to the head of the aeration tanks. Valves located in the clarifiers can be opened to waste sludge to the digester where 7,500 gallons are pumped every two weeks by a contractor and transported to Noman Cole Pollution Control Plant. Backwashing of the effluent in the mixed media filter tanks occurs every other day. A backwash pit is located to the right of the filter tanks. Should the pumps or the filters fail, there is an overflow pipe from the filters into the backwash pit. A float in the pit will activate and shut down the pumps. The Outfall 001 discharge pipe is located behind a locked gate on the marina property next door. Staff stated that access to the outfall is denied them therefore DEQ Staff was unable to observe the outfall or Massey Creek at the outfall point.



Grit Box/Bar Screen



Splitter Box



Aeration Basin 1



Aeration Basin 2



Clarifier 1



Clarifier 2



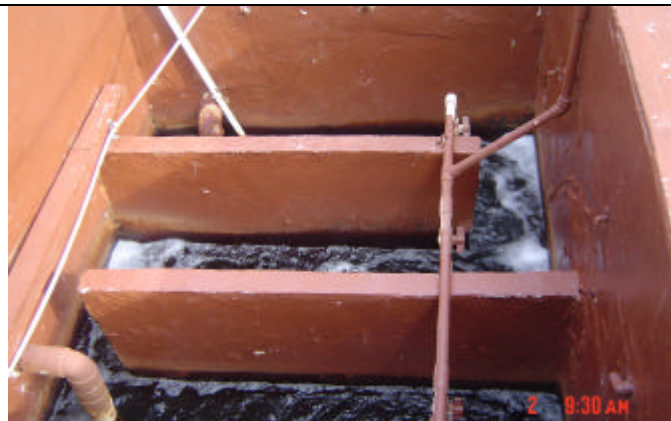
EQ Basin



Mixed Media Filters



Backwash Tank



Chlorine Contact Tank



Dechlorination



Autosampler

Dissolved Oxygen Criteria (9 VAC 25-260-185)

Designated Use	Criteria Concentration/Duration	Temporal Application
Migratory fish spawning and nursery	7-day mean > 6 mg/L (tidal habitats with 0-0.5 ppt salinity)	February 1 – May 31
	Instantaneous minimum > 5 mg/L	
Open-water ^{1,2}	30-day mean > 5.5 mg/L (tidal habitats with 0-0.5 ppt salinity)	Year-round
	30-day mean > 5 mg/L (tidal habitats with >0.5 ppt salinity)	
	7-day mean > 4 mg/L	
	Instantaneous minimum > 3.2 mg/L at temperatures < 29°C	
	Instantaneous minimum > 4.3 mg/L at temperatures > 29°C	
Deep-water	30-day mean > 3 mg/L	June 1-September 30
	1-day mean > 2.3 mg/L	
	Instantaneous minimum > 1.7 mg/L	
Deep-channel	Instantaneous minimum > 1 mg/L	June 1-September 30

¹See subsection aa of 9 VAC 25-260-310 for site specific seasonal open-water dissolved oxygen criteria applicable to the tidal Mattaponi and Pamunkey Rivers and their tidal tributaries.

²In applying this open-water instantaneous criterion to the Chesapeake Bay and its tidal tributaries where the existing water quality for dissolved oxygen exceeds an instantaneous minimum of 3.2 mg/L, that higher water quality for dissolved oxygen shall be provided antidegradation protection in accordance with section 30 subsection A.2 of the Water Quality Standards.

FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Harbor View STP

Permit No.: VA0029416

Receiving Stream: Massey Creek

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		Stream Flows		Mixing Information		Effluent Information	
Mean Hardness (as CaCO ₃) =	mg/L	1Q10 (Annual) =	0 MGD	Annual - 1Q10 Mix =	0 %	Mean Hardness (as CaCO ₃) =	290 mg/L
90% Temperature (Annual) =	deg C	7Q10 (Annual) =	0 MGD	- 7Q10 Mix =	0 %	90% Temp (Annual) =	24.2 deg C
90% Temperature (Wet season) =	deg C	30Q10 (Annual) =	0 MGD	- 30Q10 Mix =	0 %	90% Temp (Wet season) =	17.2 deg C
90% Maximum pH =	SU	1Q10 (Wet season) =	0 MGD	Wet Season - 1Q10 Mix =	0 %	90% Maximum pH =	7.8 SU
10% Maximum pH =	SU	30Q10 (Wet season) =	0 MGD	- 30Q10 Mix =	0 %	10% Maximum pH =	SU
Tier Designation (1 or 2) =	1	30Q5 =	0 MGD			Discharge Flow =	0.08 MGD
Public Water Supply (PWS) Y/N? =	n	Harmonic Mean =	0 MGD				
Trout Present Y/N? =	n	Annual Average =	na MGD				
Early Life Stages Present Y/N? =	y						

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenaphthene	0	--	--	na	2.7E+03	--	--	na	2.7E+03	--	--	--	--	--	--	--	--	--	--	na	2.7E+03
Acrolein	0	--	--	na	7.8E+02	--	--	na	7.8E+02	--	--	--	--	--	--	--	--	--	--	na	7.8E+02
Acrylonitrile ^c	0	--	--	na	6.6E+00	--	--	na	6.6E+00	--	--	--	--	--	--	--	--	--	--	na	6.6E+00
Aldrin ^c	0	3.0E+00	--	na	1.4E-03	3.0E+00	--	na	1.4E-03	--	--	--	--	--	--	--	--	3.0E+00	--	na	1.4E-03
Ammonia-N (mg/l) (Yearly)	0	1.21E+01	1.70E+00	na	--	1.2E+01	1.7E+00	na	--	--	--	--	--	--	--	--	--	1.2E+01	1.7E+00	na	--
Ammonia-N (mg/l) (High Flow)	0	1.21E+01	2.68E+00	na	--	1.2E+01	2.7E+00	na	--	--	--	--	--	--	--	--	--	1.2E+01	2.7E+00	na	--
Anthracene	0	--	--	na	1.1E+05	--	--	na	1.1E+05	--	--	--	--	--	--	--	--	--	--	na	1.1E+05
Antimony	0	--	--	na	4.3E+03	--	--	na	4.3E+03	--	--	--	--	--	--	--	--	--	--	na	4.3E+03
Arsenic	0	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	3.4E+02	1.5E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene ^c	0	--	--	na	7.1E+02	--	--	na	7.1E+02	--	--	--	--	--	--	--	--	--	--	na	7.1E+02
Benzidine ^c	0	--	--	na	5.4E-03	--	--	na	5.4E-03	--	--	--	--	--	--	--	--	--	--	na	5.4E-03
Benzo (a) anthracene ^c	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Benzo (b) fluoranthene ^c	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Benzo (k) fluoranthene ^c	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Benzo (a) pyrene ^c	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Bis(2-Chloroethyl) Ether	0	--	--	na	1.4E+01	--	--	na	1.4E+01	--	--	--	--	--	--	--	--	--	--	na	1.4E+01
Bis(2-Chloroisopropyl) Ether	0	--	--	na	1.7E+05	--	--	na	1.7E+05	--	--	--	--	--	--	--	--	--	--	na	1.7E+05
Bromoform ^c	0	--	--	na	3.6E+03	--	--	na	3.6E+03	--	--	--	--	--	--	--	--	--	--	na	3.6E+03
Butylbenzylphthalate	0	--	--	na	5.2E+03	--	--	na	5.2E+03	--	--	--	--	--	--	--	--	--	--	na	5.2E+03
Cadmium	0	1.3E+01	2.6E+00	na	--	1.3E+01	2.6E+00	na	--	--	--	--	--	--	--	--	--	1.3E+01	2.6E+00	na	--
Carbon Tetrachloride ^c	0	--	--	na	4.4E+01	--	--	na	4.4E+01	--	--	--	--	--	--	--	--	--	--	na	4.4E+01
Chlordane ^c	0	2.4E+00	4.3E-03	na	2.2E-02	2.4E+00	4.3E-03	na	2.2E-02	--	--	--	--	--	--	--	--	2.4E+00	4.3E-03	na	2.2E-02
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	--	--	--	--	8.6E+05	2.3E+05	na	--
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.9E+01	1.1E+01	na	--
Chlorobenzene	0	--	--	na	2.1E+04	--	--	na	2.1E+04	--	--	--	--	--	--	--	--	--	--	na	2.1E+04

Attachment 6

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane ^c	0	--	--	na	3.4E+02	--	--	na	3.4E+02	--	--	--	--	--	--	--	--	--	--	na	3.4E+02
Chloroform ^c	0	--	--	na	2.9E+04	--	--	na	2.9E+04	--	--	--	--	--	--	--	--	--	--	na	2.9E+04
2-Chloronaphthalene	0	--	--	na	4.3E+03	--	--	na	4.3E+03	--	--	--	--	--	--	--	--	--	--	na	4.3E+03
2-Chlorophenol	0	--	--	na	4.0E+02	--	--	na	4.0E+02	--	--	--	--	--	--	--	--	--	--	na	4.0E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	--	--	--	--	8.3E-02	4.1E-02	na	--
Chromium III	0	1.4E+03	1.8E+02	na	--	1.4E+03	1.8E+02	na	--	--	--	--	--	--	--	--	--	1.4E+03	1.8E+02	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.6E+01	1.1E+01	na	--
Chromium, Total	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene ^c	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Copper	0	3.7E+01	2.2E+01	na	--	3.7E+01	2.2E+01	na	--	--	--	--	--	--	--	--	--	3.7E+01	2.2E+01	na	--
Cyanide	0	2.2E+01	5.2E+00	na	2.2E+05	2.2E+01	5.2E+00	na	2.2E+05	--	--	--	--	--	--	--	--	2.2E+01	5.2E+00	na	2.2E+05
DDD ^c	0	--	--	na	8.4E-03	--	--	na	8.4E-03	--	--	--	--	--	--	--	--	--	--	na	8.4E-03
DDE ^c	0	--	--	na	5.9E-03	--	--	na	5.9E-03	--	--	--	--	--	--	--	--	--	--	na	5.9E-03
DDT ^c	0	1.1E+00	1.0E-03	na	5.9E-03	1.1E+00	1.0E-03	na	5.9E-03	--	--	--	--	--	--	--	--	1.1E+00	1.0E-03	na	5.9E-03
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Dibenz(a,h)anthracene ^c	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Dibutyl phthalate	0	--	--	na	1.2E+04	--	--	na	1.2E+04	--	--	--	--	--	--	--	--	--	--	na	1.2E+04
Dichloromethane (Methylene Chloride) ^c	0	--	--	na	1.6E+04	--	--	na	1.6E+04	--	--	--	--	--	--	--	--	--	--	na	1.6E+04
1,2-Dichlorobenzene	0	--	--	na	1.7E+04	--	--	na	1.7E+04	--	--	--	--	--	--	--	--	--	--	na	1.7E+04
1,3-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	2.6E+03	--	--	--	--	--	--	--	--	--	--	na	2.6E+03
1,4-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	2.6E+03	--	--	--	--	--	--	--	--	--	--	na	2.6E+03
3,3-Dichlorobenzidine ^c	0	--	--	na	7.7E-01	--	--	na	7.7E-01	--	--	--	--	--	--	--	--	--	--	na	7.7E-01
Dichlorobromomethane ^c	0	--	--	na	4.6E+02	--	--	na	4.6E+02	--	--	--	--	--	--	--	--	--	--	na	4.6E+02
1,2-Dichloroethane ^c	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	--	--	na	9.9E+02
1,1-Dichloroethylene	0	--	--	na	1.7E+04	--	--	na	1.7E+04	--	--	--	--	--	--	--	--	--	--	na	1.7E+04
1,2-trans-dichloroethylene	0	--	--	na	1.4E+05	--	--	na	1.4E+05	--	--	--	--	--	--	--	--	--	--	na	1.4E+05
2,4-Dichlorophenol	0	--	--	na	7.9E+02	--	--	na	7.9E+02	--	--	--	--	--	--	--	--	--	--	na	7.9E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane ^c	0	--	--	na	3.9E+02	--	--	na	3.9E+02	--	--	--	--	--	--	--	--	--	--	na	3.9E+02
1,3-Dichloropropene	0	--	--	na	1.7E+03	--	--	na	1.7E+03	--	--	--	--	--	--	--	--	--	--	na	1.7E+03
Dieldrin ^c	0	2.4E-01	5.6E-02	na	1.4E-03	2.4E-01	5.6E-02	na	1.4E-03	--	--	--	--	--	--	--	--	2.4E-01	5.6E-02	na	1.4E-03
Diethyl Phthalate	0	--	--	na	1.2E+05	--	--	na	1.2E+05	--	--	--	--	--	--	--	--	--	--	na	1.2E+05
Di-2-Ethylhexyl Phthalate ^c	0	--	--	na	5.9E+01	--	--	na	5.9E+01	--	--	--	--	--	--	--	--	--	--	na	5.9E+01
2,4-Dimethylphenol	0	--	--	na	2.3E+03	--	--	na	2.3E+03	--	--	--	--	--	--	--	--	--	--	na	2.3E+03
Dimethyl Phthalate	0	--	--	na	2.9E+06	--	--	na	2.9E+06	--	--	--	--	--	--	--	--	--	--	na	2.9E+06
Di-n-Butyl Phthalate	0	--	--	na	1.2E+04	--	--	na	1.2E+04	--	--	--	--	--	--	--	--	--	--	na	1.2E+04
2,4-Dinitrophenol	0	--	--	na	1.4E+04	--	--	na	1.4E+04	--	--	--	--	--	--	--	--	--	--	na	1.4E+04
2-Methyl-4,6-Dinitrophenol	0	--	--	na	7.65E+02	--	--	na	7.7E+02	--	--	--	--	--	--	--	--	--	--	na	7.7E+02
2,4-Dinitrotoluene ^c	0	--	--	na	9.1E+01	--	--	na	9.1E+01	--	--	--	--	--	--	--	--	--	--	na	9.1E+01
Dioxin (2,3,7,8- tetrachlorodibenzo-p-dioxin) (ppq)	0	--	--	na	1.2E-06	--	--	na	na	--	--	--	--	--	--	--	--	--	--	na	na
1,2-Diphenylhydrazine ^c	0	--	--	na	5.4E+00	--	--	na	5.4E+00	--	--	--	--	--	--	--	--	--	--	na	5.4E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	2.2E-01	5.6E-02	na	2.4E+02	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	2.4E+02
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	2.2E-01	5.6E-02	na	2.4E+02	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	2.4E+02
Endosulfan Sulfate	0	--	--	na	2.4E+02	--	--	na	2.4E+02	--	--	--	--	--	--	--	--	--	--	na	2.4E+02
Endrin	0	8.6E-02	3.6E-02	na	8.1E-01	8.6E-02	3.6E-02	na	8.1E-01	--	--	--	--	--	--	--	--	8.6E-02	3.6E-02	na	8.1E-01
Endrin Aldehyde	0	--	--	na	8.1E-01	--	--	na	8.1E-01	--	--	--	--	--	--	--	--	--	--	na	8.1E-01

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.9E+04	--	--	na	2.9E+04	--	--	--	--	--	--	--	--	--	--	na	2.9E+04
Fluoranthene	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+02
Fluorene	0	--	--	na	1.4E+04	--	--	na	1.4E+04	--	--	--	--	--	--	--	--	--	--	na	1.4E+04
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	--	1.0E-02	na	--
Heptachlor ^C	0	5.2E-01	3.8E-03	na	2.1E-03	5.2E-01	3.8E-03	na	2.1E-03	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	2.1E-03
Heptachlor Epoxide ^C	0	5.2E-01	3.8E-03	na	1.1E-03	5.2E-01	3.8E-03	na	1.1E-03	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	1.1E-03
Hexachlorobenzene ^C	0	--	--	na	7.7E-03	--	--	na	7.7E-03	--	--	--	--	--	--	--	--	--	--	na	7.7E-03
Hexachlorobutadiene ^C	0	--	--	na	5.0E+02	--	--	na	5.0E+02	--	--	--	--	--	--	--	--	--	--	na	5.0E+02
Hexachlorocyclohexane																					
Alpha-BHC ^C	0	--	--	na	1.3E-01	--	--	na	1.3E-01	--	--	--	--	--	--	--	--	--	--	na	1.3E-01
Hexachlorocyclohexane																					
Beta-BHC ^C	0	--	--	na	4.6E-01	--	--	na	4.6E-01	--	--	--	--	--	--	--	--	--	--	na	4.6E-01
Hexachlorocyclohexane																					
Gamma-BHC ^C (Lindane)	0	9.5E-01	na	na	6.3E-01	9.5E-01	--	na	6.3E-01	--	--	--	--	--	--	--	--	9.5E-01	--	na	6.3E-01
Hexachlorocyclopentadiene	0	--	--	na	1.7E+04	--	--	na	1.7E+04	--	--	--	--	--	--	--	--	--	--	na	1.7E+04
Hexachloroethane ^C	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	--	2.0E+00	na	--
Indeno (1,2,3-cd) pyrene ^C	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone ^C	0	--	--	na	2.6E+04	--	--	na	2.6E+04	--	--	--	--	--	--	--	--	--	--	na	2.6E+04
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Lead	0	4.6E+02	5.2E+01	na	--	4.6E+02	5.2E+01	na	--	--	--	--	--	--	--	--	--	4.6E+02	5.2E+01	na	--
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	na	5.1E-02	1.4E+00	7.7E-01	na	5.1E-02	--	--	--	--	--	--	--	--	1.4E+00	7.7E-01	na	5.1E-02
Methyl Bromide	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	4.0E+03
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	--	3.0E-02	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Monochlorobenzene	0	--	--	na	2.1E+04	--	--	na	2.1E+04	--	--	--	--	--	--	--	--	--	--	na	2.1E+04
Nickel	0	4.5E+02	5.0E+01	na	4.6E+03	4.5E+02	5.0E+01	na	4.6E+03	--	--	--	--	--	--	--	--	4.5E+02	5.0E+01	na	4.6E+03
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	na	1.9E+03
N-Nitrosodimethylamine ^C	0	--	--	na	8.1E+01	--	--	na	8.1E+01	--	--	--	--	--	--	--	--	--	--	na	8.1E+01
N-Nitrosodiphenylamine ^C	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	--	--	na	1.6E+02
N-Nitrosodi-n-propylamine ^C	0	--	--	na	1.4E+01	--	--	na	1.4E+01	--	--	--	--	--	--	--	--	--	--	na	1.4E+01
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	--	--	6.5E-02	1.3E-02	na	--
PCB-1016	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1221	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1232	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1242	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1248	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1254	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1260	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB Total ^C	0	--	--	na	1.7E-03	--	--	na	1.7E-03	--	--	--	--	--	--	--	--	--	--	na	1.7E-03

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Pentachlorophenol ^C	0	7.7E-03	5.9E-03	na	8.2E+01	7.7E-03	5.9E-03	na	8.2E+01	--	--	--	--	--	--	--	--	7.7E-03	5.9E-03	na	8.2E+01
Phenol	0	--	--	na	4.6E+06	--	--	na	4.6E+06	--	--	--	--	--	--	--	--	--	--	na	4.6E+06
Pyrene	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	na	1.1E+04
Radionuclides (pCi/l except Beta/Photon)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Gross Alpha Activity Beta and Photon Activity (mrem/yr)	0	--	--	na	1.5E+01	--	--	na	1.5E+01	--	--	--	--	--	--	--	--	--	--	na	1.5E+01
Strontium-90	0	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	--	--	--	--	--	--	--	--	na	4.0E+00
Tritium	0	--	--	na	8.0E+00	--	--	na	8.0E+00	--	--	--	--	--	--	--	--	--	--	na	8.0E+00
Selenium	0	--	--	na	2.0E+04	--	--	na	2.0E+04	--	--	--	--	--	--	--	--	--	--	na	2.0E+04
Silver	0	2.0E+01	5.0E+00	na	1.1E+04	2.0E+01	5.0E+00	na	1.1E+04	--	--	--	--	--	--	--	--	2.0E+01	5.0E+00	na	1.1E+04
Sulfate	0	2.2E+01	--	na	--	2.2E+01	--	na	--	--	--	--	--	--	--	--	--	2.2E+01	--	na	--
1,1,2,2-Tetrachloroethane ^C	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Tetrachloroethylene ^C	0	--	--	na	1.1E+02	--	--	na	1.1E+02	--	--	--	--	--	--	--	--	--	--	na	1.1E+02
Thallium	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Toluene	0	--	--	na	6.3E+00	--	--	na	6.3E+00	--	--	--	--	--	--	--	--	--	--	na	6.3E+00
Total dissolved solids	0	--	--	na	2.0E+05	--	--	na	2.0E+05	--	--	--	--	--	--	--	--	--	--	na	2.0E+05
Toxaphene ^C	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Tributyltin	0	7.3E-01	2.0E-04	na	7.5E-03	7.3E-01	2.0E-04	na	7.5E-03	--	--	--	--	--	--	--	--	7.3E-01	2.0E-04	na	7.5E-03
1,2,4-Trichlorobenzene	0	4.6E-01	6.3E-02	na	--	4.6E-01	6.3E-02	na	--	--	--	--	--	--	--	--	--	4.6E-01	6.3E-02	na	--
1,1,2-Trichloroethane ^C	0	--	--	na	9.4E+02	--	--	na	9.4E+02	--	--	--	--	--	--	--	--	--	--	na	9.4E+02
Trichloroethylene ^C	0	--	--	na	4.2E+02	--	--	na	4.2E+02	--	--	--	--	--	--	--	--	--	--	na	4.2E+02
2,4,6-Trichlorophenol ^C	0	--	--	na	8.1E+02	--	--	na	8.1E+02	--	--	--	--	--	--	--	--	--	--	na	8.1E+02
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	6.5E+01	--	--	na	6.5E+01	--	--	--	--	--	--	--	--	--	--	na	6.5E+01
Vinyl Chloride ^C	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Zinc	0	--	--	na	6.1E+01	--	--	na	6.1E+01	--	--	--	--	--	--	--	--	--	--	na	6.1E+01
	0	2.9E+02	2.9E+02	na	6.9E+04	2.9E+02	2.9E+02	na	6.9E+04	--	--	--	--	--	--	--	--	2.9E+02	2.9E+02	na	6.9E+04

Notes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
- Metals measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
Antidegradation WLAs are based upon a complete mix.
- Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
= (0.1(WQC - background conc.) + background conc.) for human health
- WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, Harmonic Mean for Carcinogens, and Annual Average for Dioxin. Mixing ratios may be substituted for stream flows where appropriate.

Metal	Target Value (SSTV)
Antimony	4.3E+03
Arsenic	9.0E+01
Barium	na
Cadmium	1.6E+00
Chromium III	1.1E+02
Chromium VI	6.4E+00
Copper	1.3E+01
Iron	na
Lead	3.1E+01
Manganese	na
Mercury	5.1E-02
Nickel	3.0E+01
Selenium	3.0E+00
Silver	8.6E+00
Zinc	1.2E+02

Note: do not use QL's lower than the minimum QL's provided in agency guidance

November to March

Facility = Harborview STP
Chemical = Ammonia - N
Chronic averaging period = 30
WLAa = 7.9
WLAc = 1.8
Q.L. = 0.2
samples/mo. = 12
samples/wk. = 3

Summary of Statistics:

observations = 1
Expected Value = 20
Variance = 144
C.V. = 0.6
97th percentile daily values = 48.6683
97th percentile 4 day average = 33.2758
97th percentile 30 day average = 24.1210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 3.63180616814936
Average Weekly limit = 2.65646174102951
Average Monthly Limit = 1.97871678522638

= 2.6 mg/L
= 2.0 mg/L

The data are:

20

Facility = Harbor View STP
Chemical = Ammonia N April to October
Chronic averaging period = 30
WLAa = 7.8
WLAc = 1.8
Q.L. = 0.2
samples/mo. = 12
samples/wk. = 3

Summary of Statistics:

observations = 1
Expected Value = 20
Variance = 144
C.V. = 0.6
97th percentile daily values = 48.6683
97th percentile 4 day average = 33.2758
97th percentile 30 day average = 24.1210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 3.63180616814936
Average Weekly limit = 2.65646174102951
Average Monthly Limit = 1.97871678522638

The data are:

20

Use ammonia standard set by Potomac Embayment Standard
which is more stringent

Monthly Average = 1.0 mg/L as $\text{NH}_3\text{-N}$

Facility = Harbor View STP
Chemical = Chlorine
Chronic averaging period = 30
WLAa = 0.019
WLAc = 0.011
Q.L. = 0.1
samples/mo. = 84
samples/wk. = 21

Summary of Statistics:

observations = 1
Expected Value = 1
Variance = .36
C.V. = 0.6
97th percentile daily values = 2.43341
97th percentile 4 day average = 1.66379
97th percentile 30 day average = 1.20605
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity

Maximum Daily Limit = 0.019

Average Weekly limit = 9.89350463228906E-03 = 0.01 mg/L

Average Monthly Limit = 8.76942264558763E-03 = 0.01 mg/L

The data are:

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

Water Division

4900 Cox Road

P.O. Box 10009

Glen Allen, Virginia 23240

MEMORANDUM

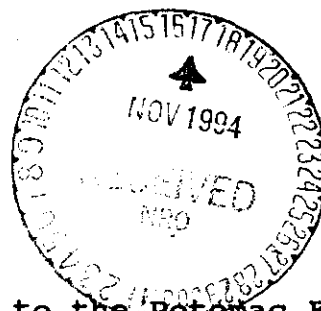
Subject: Harborview STP - VA0029416

To: Lyle Anne Collier

From: M. Dale Phillips *Call*

Date: November 16, 1994

Copies: Fred Holt, Jean Gregory



As you indicated this 0.08 MGD STP is subject to the Potomac Embayment Standards (PES). Those standards directly specify the quality that effluents must meet and I do not believe any additional requirements, for the parameters addressed by the PES, are necessary nor would they be legal. For example, we cannot require the STP's that are subject to the PES to attain phosphorus concentrations below 0.2 ppm even though it has been demonstrated that a concentration less than 0.2 ppm is necessary to control eutrophication and even though the STP's concerned are voluntarily attaining a lower concentration.

The PES require that unoxidized nitrogen be maintained, in the effluent, at levels of 1.0 ppm or less during the period April 1 - October 31. There is no other requirement. Since ammonia is an unoxidized nitrogen compound, the PES do address ammonia via this parameter. Since the receiving stream is tidal some dilution of the effluent will occur. However, we do not have adequate technical tools with which to demonstrate exactly how much dilution will occur or where it will occur and therefore have no basis to suspect that the PES are not adequate.

My personal judgement is that if a plant of this small size meets an unoxidized nitrogen (TKN) requirement of 1.0 ppm then we do not have to be concerned that ammonia will be present in concentrations sufficiently high to result in any toxicity. Further, during the period when the unoxidized nitrogen limit is not required the temperature should be low enough, even with limited tidal flushing, to avoid toxic impacts from this very small discharge.

By copy of this memorandum, I am asking Jean Gregory to comment on the issues raised. Specifically, how should we deal with the larger STPs that may violate the ammonia standard if they discharge unoxidized nitrogen as specifically allowed by the PES (including the tiering).

Recommendations for Harborview STP only:

I would recommend that the permit limits be taken directly from the PES for all parameters addressed by them to avoid legal entanglements.

Specifically, the limit to control the discharge of ammonia should be in terms of unoxidized nitrogen (or TKN defined as unoxidized nitrogen) and should be 1.0 ppm for the period specified in the PES.

DEPARTMENT OF ENVIRONMENTAL QUALITY
NORTHERN REGIONAL OFFICE

1549 Old Bridge Road, #108

Woodbridge, Virginia 22192

(703) 490-8922

SUBJECT: Request for Assistance in Calculating Ammonia Limits for Harborview Sewage Treatment Plant, VA0029416

TO: M. Dale Phillips, OWRM-Permits, Innsbrook

FROM: Lyle Anne Collier *LAC*

DATE: November 10, 1994

COPIES: file

Dale,

Harborview is a 0.08 MGD tertiary treatment plant that discharges to Massey Creek (small tidal creek, tributary to the Occoquan River/Belmont Bay) in Fairfax County. Harborview is subject to the Potomac Embayment Standards. The permit expired May 15, 1991, and has been administratively continued since that date.

I am in the process of calculating ammonia limits for Harborview. Based on a site inspection conducted in October, 1994, I discovered that there are two arms of Massey Creek and they are not connected as represented on the topo map.

Harborview STP discharges to the headwaters of one of these arms. There is no freshwater input. This channelized arm of Massey Creek joins the mainstem of Massey Creek approximately 0.4 miles downstream. The receiving stream at the point of discharge is approximately 8 - 9 feet deep and 40 - 50 feet wide. The arm widens to approximately 200 feet.

I do not believe that the default dilution ratio of 50:1 for the Chronic Wasteload Allocation is appropriate in this case and I am considering using a zero dilution factor. What do you recommend?

I have included copies of the topo map, ADC Street map and the flow frequencies. If you have any questions or need more information, please call me at (703) 490-7331.

Thanks for your help.

11/17/94

Lyle,

Welcome to the PES quagmire. Dale's answer addresses the current version of PES; the pending (!!) version would have us put in the winter ammonia limit. It won't surprise me if Jeff comes up with another interpretation.

I recommend that a zero dilution factor be used for Harbor View.

Citizens may comment on the proposed reissuance of a permit that allows the release of treated wastewater into a water body in Fairfax County, Virginia

PUBLIC COMMENT PERIOD: May XX, 2008 to 5:00 p.m. on June XX, 2008

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater

Owners or operators of municipal facilities that discharge or propose to discharge wastewater into the streams, rivers or bays of Virginia from a point source must apply for this permit. In general, point sources are fixed sources of pollution such as pipes, ditches or channels. The applicant must submit the application to the Department of Environmental Quality, under the authority of the State Water Control Board.

PURPOSE OF NOTICE: To invite the public to comment on the draft permit.

NAME, ADDRESS AND PERMIT NUMBER OF APPLICANT: Colchester Public Service Corporation
P.O. Box 379, Dunkirk, MD 20754
VA0029416

NAME AND ADDRESS OF FACILITY: Harbor View STP
10609 Greene Drive, Lorton, VA 22079

Project description: Colchester Public Service Corporation has applied for a reissuance of a permit for Harbor View STP in Fairfax County, Virginia. The applicant proposes to release treated sewage at a rate of 0.08 Million Gallons per Day into Massey Creek in Fairfax County that is in the Potomac River watershed. A watershed is the land area drained by a river and its incoming streams. The sludge will be transported to Noman M. Cole PCP for further processing. The permit will limit the following pollutants to amounts that protect water quality: pH, cBOD₅, Total Suspended Solids, Dissolved Oxygen, *E. coli*, Chlorine, Total Phosphorus, and Ammonia. The permit will require monitoring for the following pollutants: Flow, Total Nitrogen, Total Kjeldahl Nitrogen, and Nitrate + Nitrite.

How a decision is made: After public comments have been considered and addressed by the permit or other means, DEQ will make the final decision unless there is a public hearing. DEQ may hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the proposed permit. If there is a public hearing, the State Water Control Board will make the final decision.

HOW TO COMMENT: DEQ accepts comments by e-mail, fax or postal mail. All comments must be in writing and be received by DEQ during the comment period. The public also may request a public hearing.

WRITTEN COMMENTS MUST INCLUDE:

1. The names, mailing addresses and telephone numbers of the person commenting and of all people represented by the citizen.
2. If a public hearing is requested, the reason for holding a hearing, including associated concerns.
3. A brief, informal statement regarding the extent of the interest of the person commenting, including how the operation of the facility or activity affects the citizen.

TO REVIEW THE DRAFT PERMIT AND APPLICATION: The public may review the documents at the DEQ-Northern Virginia Regional Office every work day by appointment.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION:

Name: Susan Oakes

Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193

Phone: (703) 583-3863 E-mail: saoakes@deq.virginia.gov Fax: (703) 583-3801

**State "Transmittal Checklist" to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review**

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:	Harbor View STP
NPDES Permit Number:	VA0029416
Permit Writer Name:	Susan Oakes
Date:	April 22, 2008

Major ☐Minor ☒Industrial ☐Municipal ☒**I.A. Draft Permit Package Submittal Includes:**

	Yes	No	N/A
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?	X		
6. A Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?		X	
8. Whole Effluent Toxicity Test summary and analysis?			X
9. Permit Rating Sheet for new or modified industrial facilities?			X

I.B. Permit/Facility Characteristics

	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet or permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet or permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water?	X		
a. Has a TMDL been developed and approved by EPA for the impaired water?	X		
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?	X		
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?		X	
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10. Does the permit authorize discharges of storm water?		X	

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?		X	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?		X	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		X	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs (To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether “antibacksliding” provisions were met for any limits that are less stringent than those in the previous NPDES permit?	X		

II.C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1. Does the permit contain numeric limits for <u>ALL</u> of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	X		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	X		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			X
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	X		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	X		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		X	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			X

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?			X
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a “reasonable potential” evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the “reasonable potential” evaluation was performed in accordance with the State’s approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	X		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have “reasonable potential”?	X		
d. Does the fact sheet indicate that the “reasonable potential” and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?	X		
e. Does the permit contain numeric effluent limits for all pollutants for which “reasonable potential” was determined?	X		

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the record indicate that an “antidegradation” review was performed in accordance with the State’s approved antidegradation policy?	X		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		X	
4. Does the permit require testing for Whole Effluent Toxicity?		X	

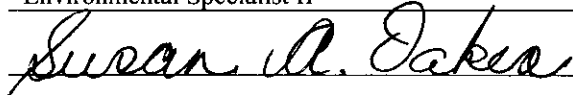
II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?	X		
2. Does the permit include appropriate storm water program requirements?			X

II.F. Special Conditions – cont.	Yes	No	N/A
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			X
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		X	
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?			X
a. Does the permit require implementation of the “Nine Minimum Controls”?			X
b. Does the permit require development and implementation of a “Long Term Control Plan”?			X
c. Does the permit require monitoring and reporting for CSO events?			X
7. Does the permit include appropriate Pretreatment Program requirements?			X

II.G. Standard Conditions	Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		
List of Standard Conditions – 40 CFR 122.41			
Duty to comply	Property rights	Reporting Requirements	
Duty to reapply	Duty to provide information	Planned change	
Need to halt or reduce activity not a defense	Inspections and entry	Anticipated noncompliance	
Duty to mitigate	Monitoring and records	Transfers	
Proper O & M	Signatory requirement	Monitoring reports	
Permit actions	Bypass	Compliance schedules	
	Upset	24-Hour reporting	
		Other non-compliance	
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?	X		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	<u>Susan A. Oakes</u>
Title	<u>Environmental Specialist II</u>
Signature	<u></u>
Date	<u>April 22, 2008</u>